

a log engine that receives log files from the at least one internet server, processes hits logged in each log file, and stores traffic data derived from the hits in the visitor centric database, wherein the visitor centric database associates the traffic data derived from the hits with a visitor that generated the hit; and

5 a report engine that generates reports using the traffic data stored in the visitor centric database.--

*a* --7. The system of claim 6, wherein the visitor centric database comprises a plurality of hash tables.--

--8. The system of claim 6, wherein the plurality of hash tables comprise:  
a visitor table that stores traffic information derived from the hits, wherein the visitor table contains a unique visitor record for each visitor; and  
a plurality of data tables, wherein each data table stores data related to a respective  
5 non-unique parameter.--

--9. The system of claim 8, wherein the visitor table comprises at least one pointer to at least one record stored in at least one of the data tables.--

- A1
- 10. The system of claim 8, wherein the respective non-unique parameters comprise:  
domain names from which the visitors originated;  
web browsers used by the visitors; and  
other internet sites that referred the visitors to the at least one internet site.--
- 11. The system of claim 6, wherein the log engine comprises a database buffer that temporarily stores the traffic data derived from the hits logged in the log files.--
- 12. The system of claim 11, wherein the log engine further comprises a database updater that transfers the traffic data temporarily stored in the database buffer to the visitor centric database.--
- 13. The system of claim 12, wherein the database updater sorts the traffic data temporarily stored in the database buffer before transferring the traffic data to the visitor centric database.--
- 14. The system of claim 6, wherein the log engine comprises a log parser that reads log lines in the log files, and separates each log file into individual fields.--
- 15. The system of claim 14, wherein the log parser is adapted to process the log lines in real time as each hit is logged to a log file.--

--16. The system of claim 6, wherein the log engine is configured to process hits from multiple internet sites that are logged to a single log file.--

--17. The system of claim 6, wherein the log engine comprises a website identifier that identifies a source of each hit.--

21  
--18. The system of claim 8, wherein the log engine comprises a visitor identifier that determines if a hit originates from a new visitor or an existing visitor.--

--19. The system of claim 18, wherein the visitor identifier is adapted to create a new visitor record if a hit originates from a new visitor.--

--20. The system of claim 6, wherein the log engine comprises a domain name system (DNS) resolver that determines host and domain information for each visitor.--

--21. The system of claim 20, wherein the DNS resolver utilizes reverse DNS resolution to determine the host and domain information for each visitor.--

--22. The system of claim 6, wherein the log engine is adapted to process e-commerce log files that contain information on money spent by a visitor.--

--23. The system of claim 22, wherein the report engine is adapted to generate reports that correlate money spent by a visitor to any other parameter of the traffic data.--

--24. The system of claim 22, wherein the report engine is adapted to generate a top products report that ranks products purchased by visitors based on revenues generated by the products.--

a1 --25. The system of claim 22, wherein the report engine is adapted to generate at least one of a totals report, product tree report, regions report, and top scores report.--

--26. The system of claim 6, wherein the report engine is adapted to generate a report that displays a value of at least one traffic data parameter over at least one predetermined time period.--

--27. The system of claim 26, wherein the report comprises a snapshot report in which the at least one predetermined time period comprises seven consecutive 24 hour time periods.--

--28. The system of claim 26, wherein the report comprises an hourly graph report in which the at least one predetermined time period comprises a plurality of consecutive one hour time periods.--

--29. The system of claim 6, wherein the report engine is adapted to generate a top pages report that ranks website pages based on number of visitors to the website pages.--

--30. The system of claim 29, wherein each entry in the top pages report comprises a link for accessing additional information about a respective website page.--

a | --31. The system of claim 6, wherein the report engine is adapted to generate a search engine report that displays a list of most used search engines.--

--32. The system of claim 6, wherein the report engine is adapted to generate a top domains report that displays regional and network information about the visitors.--

--33. The system of claim 6, wherein the report engine is adapted to generate a browser tree report that ranks internet browsers based on which internet browsers are used most by visitors to a website.--

--34. The system of claim 33, wherein each internet browser entry in the browser tree report includes a link for accessing information about different versions of a respective internet browser.--

--35. The system of claim 6, wherein the report engine is adapted to generate a top entrances report that ranks starting points of visitors to a website based most used starting points.--

a1  
--36. The system of claim 6, wherein the report engine is adapted to generate at least one of a summary report, a daily graph report, a monthly graph report, a top servers report, a file types report, a status/errors report, a posted forms report, a top referrals report, a top keywords report, a referral tree report, a domain tree report, a top countries report, a platform tree report, a top combos report, a top exits report, a click through report, a depth of visit report, a length of visit report, and a usernames report.--

5  
--37. The system of claim 6, wherein the report engine comprises:  
a template module that stores report templates;  
a session parser that receives report requests from the at least one server, and determines a type of report requested, data needed to generate a requested report and a format for the requested report;  
5 an authenticator that receives an identity of a report requester from the session parser, and verifies that the report requester has permission to view a requested report;

a data query module that receives authentication information from the authenticator, and that queries the database for data needed to generate the requested report if the report requester has permission to view the requested report; and

a format output module that receives the data needed to generate the requested report from the database, retrieves templates for the requested report from the template module, creates the requested report, and delivers the requested report to the report requester.--

a1 --38. The system of claim 37, wherein the template module also stores at least one dictionary.--

--39. The system of claim 38, wherein the format output module is adapted to create the requested report in a selectable language using the at least one dictionary.--

--40. A system for analyzing and monitoring internet traffic generated by visitors to at least one internet site hosted by at least one internet server, comprising:

means for receiving log files from the at least one internet server;

means for processing hits logged in each log file;

means for storing traffic data derived from the hits in a database;

means for associating the traffic data derived from the hits and stored in the database with a visitor that generated the hit; and

means for generating reports using the associated traffic data stored in the database.--

--41. The system of claim 40, wherein the database comprises a plurality of hash tables.--

--42. The system of claim 41, wherein the plurality of hash tables comprise:  
a visitor table that stores traffic information derived from the hits, wherein the visitor table contains a unique visitor record for each visitor; and  
a plurality of data tables, wherein each data table stores data related to a respective non-unique parameter.--

--43. The system of claim 42, wherein the visitor table comprises at least one pointer to at least one record stored in at least one of the data tables.--

--44. The system of claim 40, further comprising buffer means for temporarily storing the traffic data derived from the hits logged in the log files.--

--45. The system of claim 44, wherein the storing means comprises database update means for transferring the traffic data temporarily stored in the buffer means to the database.--



--46. The system of claim 45, wherein the database update means sorts the traffic data temporarily stored in the buffer means before transferring the traffic data to the database.--

--47. The system of claim 40, wherein the processing means comprises log parser means for reading log lines in the log files, and for separating each log line into individual fields.--

AI --48. The system of claim 47, wherein the log parser means processes the log lines in real time as each hit is logged to a log file.--

--49. The system of claim 40, wherein the processing means processes hits originating from multiple internet sites and logged to a single log file.--

--50. The system of claim 40, wherein the processing means comprises website identification means that identifies a source of each hit.--

--51. The system of claim 42, wherein the processing means comprises visitor identification means that determines if a hit originates from a visitor with a preexisting visitor record in the database.--

--52. The system of claim 51, wherein the visitor identification means creates a new visitor record if a hit originates from a visitor without a preexisting visitor record in the database.--

--53. The system of claim 40, wherein the processing means comprises domain name system (DNS) resolver means that determines host and domain information for each visitor.--

a1 --54. The system of claim 53, wherein the DNS resolver means utilizes reverse DNS resolution to determine the host and domain information for each visitor.--

--55. A system for analyzing and monitoring internet traffic generated by visitors to at least one internet site hosted by at least one internet server, comprising:

a database;

a log engine that receives log files from the at least one internet server, processes  
5 hits logged in each log file, and stores traffic data extracted from the processed hits in the database, wherein the log engine comprises,

a database buffer that temporarily stores traffic data received from the database,

a log parser that processes each hit in each log file, and separates each hit  
10 into its individual fields,

a visitor identifier that receives each hit's individual fields from the log parser, identifies each hit as originating from either a new visitor or an existing visitor, and creates a new visitor record in the database buffer if a hit originates from a new visitor,

5 a buffer updater that, prior to processing a new log file, copies previously stored data from the database to the database buffer, and wherein, for each hit, the buffer updater locates in the database buffer the visitor record identified or created by the visitor identifier for a respective hit, and updates the identified or created visitor record in the database buffer with traffic data derived from the respective hit, and

10 a database updater that copies updated traffic data from the database buffer to the database after all hits in the new log file have been processed; and

a report engine that generates reports using the traffic data stored in the database.--

--56. The system of claim 55, wherein the log parser is updated to process each hit in real time as each hit is added to a log file.--

--57. The system of claim 55, wherein the log engine further comprises a website identifier that identifies a source of each hit.--

--58. The system of claim 57, wherein the website identifier identifies the source of each hit from website identifier text received from the log parser for each hit.--

--59. The system of claim 55, wherein the log engine further comprises a domain name system (DNS) resolver that determines host and domain information for each visitor to an internet site.--

--60. The system of claim 59, wherein the DNS resolver is adapted to process multiple DNS queries in parallel.--

01 --61. The system of claim 55, wherein the log engine is adapted to process e-commerce log files that contain information on money spent by the visitor.--

--62. A method of analyzing and monitoring internet traffic generated by visitors to at least one internet site hosted by at least one internet server, comprising the steps of:

receiving log files from the at least one internet server;

processing hits logged in each log file;

5 storing, in a database, traffic data derived from the hits; and

associating the traffic data derived from the hits and stored in the database with a visitor that generated the hit.--

--63. The method of claim 62, further comprising the step of generating reports using the associated traffic data stored in the database.--

--64. The method of claim 63, wherein the traffic data derived from the hits is stored in a plurality of hash tables.--

--65. The method of claim 64, wherein traffic information derived from the hits are stored in a visitor hash table that contains a unique visitor record for each visitor, and wherein data related to at least one non-unique parameter is stored in respective data tables.--

--66. The method of claim 65, wherein the visitor hash table comprises at least one pointer that points to at least one record stored in at least one of the data tables.--

--67. The method of claim 62, further comprising the step of temporarily storing the traffic data derived from the hits in a buffer prior to storing the traffic data in the database.--

--68. The method of claim 67, further comprising the step of sorting the traffic data stored in the buffer prior to storing the traffic data in the database.--

--69. The method of claim 62, wherein the step of processing hits logged in each log file comprises the steps of:

reading log lines in the log files; and

separating each log line into individual fields.--

--70. The method of claim 69, wherein the hits logged in each log file are processed in real time as each hit is logged to a log file.--

--71. The method of claim 62, wherein the processing step comprises processing hits originating from multiple sources that are logged to a single log file.--

--72. The method of claim 62, further comprising the step of identifying a source from which each hit originates.--

--73. The method of claim 65, further comprising the steps of:  
determining if a hit originates from a visitor with a preexisting visitor record in the database; and  
creating a new visitor record if the hit originates from a visitor without a preexisting visitor record in the database.--

--74. The method of claim 62, further comprising the step of determining host and domain information for each visitor.--

--75. The method of claim 74, wherein host and domain information for each visitor is determined using reverse domain name system (DNS) resolution.--

a |  
5  
--76. A method of processing a log file to obtain traffic data, comprising the steps of:  
copying previously stored traffic data from a database to a database buffer;  
separating hits logged in the log file into individual fields;  
identifying each hit as originating from either a new visitor or an existing visitor;  
creating a new visitor record in the database buffer if a hit originates from a new  
visitor;

for each hit, locating the visitor record identified or created and updating the  
identified or created visitor record in the database buffer with traffic data derived from the  
respective hit; and

10 copying updated traffic data from the database buffer to the database after all hits  
in the log file have been processed.--

--77. The method of claim 76, further comprising the step of generating a report based  
on the traffic data in the database.--

--78. The method of claim 76, wherein the hits logged to the log file are processed in  
real time as each hit is logged to the log file.--

--79. The method of claim 76, wherein hits originating from multiple sources are logged to the log file.--

--80. The method of claim 79, further comprising the step of identifying a source from which each hit originates.--

a --81. The method of claim 76, further comprising the step of determining host and domain information for each visitor.--

--82. The method of claim 81, wherein host and domain information for each visitor is determined using reverse domain name system (DNS) resolution.--